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NOV 13 2001

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RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/485,421A

DATE: 10/01/2001

TIME: 13:50:54

Input Set : A:\Upn-4023.seq.app.txt

Output Set: N:\CRF3\10012001\I485421A.raw

ENTERED

4 <110> APPLICANT: Ayyavoo, Velpandi
5 Patel, Mamata
6 Kieber-Emmons, Thomas
7 Weiner, David B.
8 Mahalingam, Sundaramy

10 <120> TITLE OF INVENTION: Functional Fragments of HIV-1 VPR Protein and Methods
11 of Using the Same

13 <130> FILE REFERENCE: UPN-4023

15 <140> CURRENT APPLICATION NUMBER: 09/485,421A

C--> 16 <141> CURRENT FILING DATE: 2001-09-17

18 <150> PRIOR APPLICATION NUMBER: 60/055,754

19 <151> PRIOR FILING DATE: 1997-08-14

21 <160> NUMBER OF SEQ ID NOS: 18

23 <170> SOFTWARE: PatentIn Ver. 2.1

25 <210> SEQ ID NO: 1

26 <211> LENGTH: 96

27 <212> TYPE: PRT

28 <213> ORGANISM: Artificial Sequence

30 <220> FEATURE:

31 <223> OTHER INFORMATION: Description of Artificial Sequence: Novel Sequence ✓

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35 1				5					10					15	
37 Asp	Trp	Thr	Leu	Glu	Leu	Leu	Glu	Glu	Leu	Lys	Asn	Glu	Ala	Val	Arg
38			20					25					30		
40 His	Phe	Pro	Arg	Ile	Trp	Leu	His	Ser	Leu	Gly	Gln	His	Ile	Tyr	Glu
41			35				40					45			
43 Thr	Tyr	Gly	Asp	Thr	Trp	Thr	Gly	Val	Glu	Ala	Leu	Ile	Arg	Ile	Leu
44		50				55			60						
46 Gln	Gln	Leu	Leu	Phe	Ile	His	Phe	Arg	Ile	Gly	Cys	Arg	His	Ser	Arg
47 65					70				75				80		
49 Ile	Gly	Ile	Ile	Gln	Arg	Arg	Thr	Arg	Asn	Gly	Ala	Ser	Lys	Ser	
50			85				90					95			

53 <210> SEQ ID NO: 2

54 <211> LENGTH: 101

55 <212> TYPE: PRT

56 <213> ORGANISM: Artificial Sequence

58 <220> FEATURE:

59 <223> OTHER INFORMATION: Description of Artificial Sequence: Novel Sequence ✓

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62 Met	Glu	Glu	Arg	Pro	Pro	Glu	Asn	Glu	Gly	Pro	Gln	Arg	Glu	Pro	Trp
63 1				5					10					15	
65 Asp	Glu	Trp	Val	Val	Glu	Val	Leu	Glu	Glu	Leu	Lys	Glu	Glu	Ala	Leu
66			20				25					30			
68 Lys	His	Phe	Asp	Pro	Arg	Leu	Leu	Thr	Ala	Leu	Gly	Asn	His	Ile	Tyr
69			35				40				45				
71 Asn	Arg	His	Gly	Asp	Thr	Leu	Glu	Gly	Ala	Gly	Glu	Leu	Ile	Arg	Ile

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72      50      55      60
74 Leu Gln Arg Ala Leu Phe Met His Phe Arg Gly Gly Cys Ile His Ser
75 65      70      75      80
77 Arg Ile Gly Gln Pro Gly Gly Gly Asn Pro Leu Ser Ala Ile Pro Pro
78      85      90      95
80 Ser Arg Ser Met Leu
81      100
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86 <212> TYPE: PRT
87 <213> ORGANISM: Artificial Sequence
89 <220> FEATURE:
90 <223> OTHER INFORMATION: Description of Artificial Sequence: Novel Sequence ✓
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93 Met Thr Asn Pro Arg Glu Thr Ile Pro Pro Gly Asn Ser Gly Glu Glu
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96 Thr Ile Glu Glu Ala Phe Asp Trp Leu Asp Arg Thr Val Glu Ala Ile
97      20      25      30
99 Asn Arg Glu Ala Val Asn His Leu Pro Arg Glu Leu Ile Phe Gln Val
100      35      40      45
102 Trp Gln Arg Ser Trp Arg Tyr Trp His Asp Glu Gln Gly Met Ser Arg
103      50      55      60
105 Ser Tyr Thr Lys Tyr Arg Tyr Leu Cys Leu Met Gln Lys Ala Val Phe
106 65      70      75      80
108 Met His Phe Lys Lys Gly Cys Thr Cys Arg Gly Glu Gly His Gly Pro
109      85      90      95
111 Gly Gly Trp Arg Ser Gly Pro Pro Pro Pro Pro Pro Gly Leu
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125 1      5      10      15
127 Asp Trp Thr Leu Glu Leu Leu Glu Glu Leu Lys Asn Glu Ala Val Arg
128      20      25      30
130 His Phe Pro Arg Ile Trp Leu His Ser Leu Gly Gln His Ile Tyr Glu
131      35      40      45
133 Thr Tyr Gly Asp Thr Trp Thr Gly Val Glu Ala Leu Ile Arg Ile Leu
134      50      55      60
136 Gln Gln Leu Leu Phe Ile His Phe Arg Ile Gly Cys Arg His Ser Arg
137 65      70      75      80
139 Ile Gly Ile Ile Gln His Arg Arg Thr Arg Asn Gly Ala Ser Lys Ser
140      85      90      95
143 <210> SEQ ID NO: 5
144 <211> LENGTH: 96

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156           20           25           30
158 His Phe Pro Arg Ile Trp Leu His Ser Leu Gly Gln His Ile Tyr Glu
159           35           40           45
161 Thr Tyr Gly Asp Thr Trp Thr Gly Val Glu Ala Leu Ile Arg Ile Leu
162           50           55           60
164 Gln Gln Leu Leu Phe Ile His Phe Arg Ile Gly Cys Arg His Ser Arg
165   65           70           75           80
167 Ile Gly Ile Ile Gln His Arg Arg Thr Arg Asn Gly Ala Ser Lys Ser
168           85           90           95
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172 <211> LENGTH: 96
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176 <220> FEATURE:
177 <223> OTHER INFORMATION: Description of Artificial Sequence: Novel Sequence ✓
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183 Asp Trp Thr Ala Glu Ala Ala Glu Glu Ala Lys Asn Glu Ala Val Arg
184           20           25           30
186 His Phe Pro Arg Ile Trp Leu His Ser Leu Gly Gln His Ile Tyr Glu
187           35           40           45
189 Thr Tyr Gly Asp Thr Trp Thr Gly Val Glu Ala Leu Ile Arg Ile Leu
190           50           55           60
192 Gln Gln Leu Leu Phe Ile His Phe Arg Ile Gly Cys Arg His Ser Arg
193   65           70           75           80
195 Ile Gly Ile Ile Gln His Arg Arg Thr Arg Asn Gly Ala Ser Lys Ser
196           85           90           95
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201 <212> TYPE: PRT
202 <213> ORGANISM: Artificial Sequence
204 <220> FEATURE:
205 <223> OTHER INFORMATION: Description of Artificial Sequence: Novel Sequence ✓
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212           20           25           30
214 His Phe Pro Arg Ile Trp Leu His Ser Leu Gly Gln His Ile Tyr Glu
215           35           40           45

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217 Thr Tyr Gly Asp Thr Trp Thr Gly Val Glu Ala Leu Ile Arg Ile Leu
 218 50 55 60
 220 Gln Gln Leu Leu Phe Ile His Phe Arg Ile Gly Cys Arg His Ser Arg
 221 65 70 75 80
 223 Ile Gly Ile Ile Gln His Arg Arg Thr Arg Asn Gly Ala Ser Lys Ser
 224 85 90 95

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228 <211> LENGTH: 96

229 <212> TYPE: PRT

230 <213> ORGANISM: Artificial Sequence

232 <220> FEATURE:

233 <223> OTHER INFORMATION: Description of Artificial Sequence: Novel Sequence ✓

235 <400> SEQUENCE: 8

236 Met Glu Gln Ala Pro Glu Asp Gln Gly Pro Gln Arg Glu Pro Tyr Asn
 237 1 5 10 15
 239 Asp Trp Thr Leu Glu Leu Leu Glu Glu Leu Lys Asn Glu Leu Val Arg
 240 20 25 30
 242 His Phe Pro Arg Ile Trp Leu His Ser Leu Gly Gln His Ile Tyr Glu
 243 35 40 45
 245 Thr Tyr Gly Asp Thr Trp Thr Gly Val Glu Ala Leu Ile Arg Ile Leu
 246 50 55 60

248 Gln Gln Leu Leu Phe Ile His Phe Arg Ile Gly Cys Arg His Ser Arg
 249 65 70 75 80
 251 Ile Gly Ile Ile Gln His Arg Arg Thr Arg Asn Gly Ala Ser Lys Ser
 252 85 90 95

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257 <212> TYPE: PRT

258 <213> ORGANISM: Artificial Sequence

260 <220> FEATURE:

261 <223> OTHER INFORMATION: Description of Artificial Sequence: Novel Sequence ✓

263 <400> SEQUENCE: 9

264 Met Glu Gln Ala Pro Glu Asp Gln Gly Pro Gln Arg Glu Pro Tyr Asn
 265 1 5 10 15
 267 Asp Trp Thr Leu Glu Leu Leu Glu Glu Leu Lys Asn Glu Ala Val Arg
 268 20 25 30
 270 His Phe Pro Arg Ile Trp Leu His Ser Leu Gly Gln His Ile Tyr Glu
 271 35 40 45
 273 Thr Tyr Gly Asp Thr Trp Thr Gly Val Glu Pro Leu Ile Arg Ile Leu
 274 50 55 60

276 Gln Gln Leu Leu Phe Ile His Phe Arg Ile Gly Cys Arg His Ser Arg
 277 65 70 75 80
 279 Ile Gly Ile Ile Gln His Arg Arg Thr Arg Asn Gly Ala Ser Lys Ser
 280 85 90 95

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284 <211> LENGTH: 96

285 <212> TYPE: PRT

286 <213> ORGANISM: Artificial Sequence

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289 <223> OTHER INFORMATION: Description of Artificial Sequence: Novel Sequence ✓

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295 Asp Trp Thr Leu Glu Leu Leu Glu Glu Leu Lys Asn Glu Ala Val Arg

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298 His Phe Pro Arg Ile Trp Leu His Ser Leu Gly Gln His Ile Tyr Glu

299 35 40 45

301 Thr Tyr Gly Asp Thr Trp Thr Gly Val Glu Ala Leu Ile Arg Ser Leu

302 50 55 60

304 Gln Gln Leu Leu Phe Ile His Phe Arg Ile Gly Cys Arg His Ser Arg

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317 <223> OTHER INFORMATION: Description of Artificial Sequence: Novel Sequence ✓

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321 1 5 10 15

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324 20 25 30

326 His Phe Pro Arg Ile Trp Leu His Ser Leu Gly Gln His Ile Tyr Glu

327 35 40 45

329 Thr Tyr Gly Asp Thr Trp Thr Gly Val Glu Ala Leu Ile Arg Ile Leu

330 50 55 60

332 Gln Gln Ser Leu Phe Ile His Phe Arg Ile Gly Cys Arg His Ser Arg

333 65 70 75 80

335 Ile Gly Ile Ile Gln His Arg Arg Thr Arg Asn Gly Ala Ser Lys Ser

336 85 90 95

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345 <223> OTHER INFORMATION: Description of Artificial Sequence: Novel Sequence ✓

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351 Asp Trp Thr Leu Glu Leu Leu Glu Glu Leu Lys Asn Glu Ala Val Arg

352 20 25 30

354 His Phe Pro Arg Ile Trp Leu His Ser Leu Gly Gln His Ile Tyr Glu

355 35 40 45

357 Thr Tyr Gly Asp Thr Trp Thr Gly Val Glu Ala Leu Ile Arg Ile Leu

358 50 55 60

360 Gln Gln Leu Ser Phe Ile His Phe Arg Ile Gly Cys Arg His Ser Arg

VERIFICATION SUMMARY

PATENT APPLICATION: US/09/485,421A

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TIME: 13:50:56

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